# Giga Epitaxy opens epiwafer fab

After starting construction in September 2000 (and completed it in April), in September **Giga Epitaxy Technology Corp** (Hsinchu, Taiwan) opened its 10,000 $m^2$ epiwafer manufacturing plant in Yangmei Jen, Taoyuan Hsien. The facility has four storeys above ground and two basement and auxiliary facilities: three storeys for cleanrooms (2,200 $m^2$, expandable to about 4,000 $m^2$) and the rest for offices, utilities etc.

Giga Epitaxy Technology was founded in May 2000 as a joint venture between Lee-Tech Co Ltd, Optotech Corp, Sino-American Silicon Products Inc and Hitachi Cable Ltd (Tokyo, Japan).

In December 2000 Hitachi Cable invested NT$1bn (US$30.3m) in acquiring a majority 51% stake and granted a license for mass production of GaAs epiwafers. Its aim was to secure a stable supply of epiwafers (with Hitachi Cable supplying GaAs substrates and Giga Epitaxy Technology Corp making the epiwafers).

Lee-Tech Co Ltd was established by president Billy T S Wu in Hsin-Tien City in July 1980 and served as an agent for equipments and LED products from Japan and USA for companies including Hitach Cable, Zygo, and Seiwa. It set up branch office in Hsinchu in December 1999 and invested in Giga Epitaxy with Hitachi-Cable in December 2000. Wu became a shareholder and the chairman of the company.

Giga Epitaxy and Hitachi Cable have also signed a Technology Transfer Agreement (TTA) and an Original Equipment Manufacturing agreement to make MOCVD-grown 4" and 6" epiwafers for MESFETs, HEMTs and HBTs.

The installation of MOCVD reactors and the other equipment has been completed and preparation for production has been performed by Giga Epitaxy and Hitachi Cable engineers. The training of Giga Epitaxy's engineers at Hitachi Cable has also been completed.

Evaluation samples for customers' qualification were due to be shipped in early Q4/2001.

Production capacity will be increased gradually to about 2,000 6" epiwafers per month for HBTs in Q1/2002 then 3,000 in Q2/2002 (and then possibly 12,000 epiwafers per month by 2006).

## Microelectronics: Taiwan

### WIN claims to be first GaAs MMIC foundry with QS-9000 and ISO 9001 certification

In October GaAs MMIC foundry **WIN Semiconductors Corp** (Taipei, Taiwan) - the only GaAs MMIC maker in Taiwan - said it had become one of the first 6" GaAs fabs in the world to obtain QS-9000 and ISO 9001 quality management system certification. The ahcievement the comes less than a year after the start of fab operation.

WIN emphasizes that QS-9000 certification contains the ISO9001 standard, but that it also includes additional requirements specific to the automobile and semiconductor industries.

# Suntek enters production

After completing its fab in Q2/2001 GaAs epiwafer foundry **Suntek Compound Semiconductor Co** (Hsinchu, Taiwan) - founded in August 2000 with US$2.4m investment from Procomp Informatics (which has a 46% shareholding) and Acer (26%) - has completed pilot production of 4" AlGaAs HBT epiwafers earlier than expected (via a technology transfer and manufacturing team training from Japanese integrated device manufacturer Mitsubishi Electric, reaching a yield rate of 97%). In October Sunbtek began volume production on schedule. Suntek now has more than 200 staff.

Suntek says Mitsubishi will transfer a large portion of its manufacturing (guaranteeing 30-50% of Suntek's initial orders), while US shareholder Celeritek has guaranteed 20%. Suntek expects to break even in Q2/2002.

Suntek's fab will have a total capacity of 5,000 wafers per month. By end-2001 it hopes to be up to 2,000 wpm (mostly 4" HBT wafers). Suntek's initial products will be AlGaAs HBT. Also, using its internal R&D technology teams, Suntek has developed InGaP HBTs, pHEMTs and laser drivers.

In 2002, it expects to offer InP HBTs and pHEMTs as well as optical devices.

Suntek's foundry service group also provides both device layout rules and design models.

The company originally planned to start construction of a second fab in Q3/2001, but has decided to delay until the market requires more capacity.

Suntek says that its expansion to 6" wafers will be ready for production in 2003.

# AIXTRON opens Taiwan R&D subsidiary

On January 1 **AIXTRON AG** (Aachen, Germany) will open its new Taiwanese R&D and Technical Operation subsidiary at Fl. 6, De Tai Technology Building, No. 8, Hsin-An Road in the Hsin-chu Science Based Industrial Park (SBIP).

President Dr Holger Jürgensen said "The R&D effort at AIXTRON is focused on enabling the compound semiconductor industry to achieve its highest productivity while establishing production processes for their devices...Our goal is to bring this level of effort into the SBIP by contributing with partners in the academic and manufacturing fields to promote the further development of Taiwan's compound semiconductor industry".

R&D projects will be coordinated with AIXTRON's HQ by **AIXTRON Taiwan**'s general manager Dr Christian Geng (Tel: +886-3-5614-211) and technology transfer manager Bernd Wachtendorf. Wachtendorf says "Our team has gained experience in successful collaborations with Taiwanese partners such as CSIST, OES/ITRI, NCU and industry. We are looking forward to many more projects for instance the upcoming collaboration on Tricent based Oxide deposition with NDL."

AIXTRON's Taiwan representative, **Challentech International Corp** (Fax: +886-3-5614-19), will help to co-ordinate co-operation.